



TETON INTERAGENCY FIRE DISPATCH

July 2011 OUTLOOK

July 17, 2011

SUMMARY

Delayed snowmelt and a cool spring continued to moderate fire activity in the Teton Interagency Fire zone. While the La Niña pattern has evolved to neutral conditions, the delayed greenup and extended soil moisture will extend the moderate fire conditions into our typical mid- and late-summer fire season.

The impact on Teton Interagency Fire zone includes limited early-season fire activity and delayed onset of the more active fire season, with outlooks for below-normal to normal fire activity in our mid-season and typical August-early September fire season. Most mid- to high-elevation sites continue to reflect a flush in fine live fuels and retained moisture in heavier downed fuels.

CLIMATE AND FUELS OUTLOOK

(1) Year-to-Date Precipitation for Area Weather Stations

Area precipitation for the water year (October through June) continues above normal. At the Moose weather station, five of the last eight months had moisture at 200% or more of average, with eight of the past nine months at above-normal precipitation. Precipitation for June was 125% of normal, tracking similarly to last June's precipitation. This water-year is tracking similarly to a prior flood-year, 1996-1997, which had 160% average year-to-date moisture through June, compared to 177% year-to-date moisture this year.

Table 1a: Precipitation at Moose Weather Station (Grand Teton National Park)

		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	YTD total
Monthly Precipitation	Normal	1.27	2.11	2.49	2.57	1.95	1.56	1.45	1.94	1.73	15.34
	1996-97	1.39	2.55	7.81	4.44	2.22	2.36	1.11	2.83	2.25	24.71
	2009-10	3.59	0.30	0.97	2.05	1.28	1.18	2.51	1.57	1.28	13.45
	2010-11	3.31	4.5	3.57	3.84	1.54	3.84	3.64	4.04	2.16	28.28
Percent of NORMAL	1996-97	99%	121%	309%	171%	117%	150%	74%	148%	300%	160%
	2009-10	256%	14%	38%	79%	68%	75%	168%	82%	132%	87%
	2010-11	236%	213%	141%	148%	81%	245%	244%	212%	125%	177%

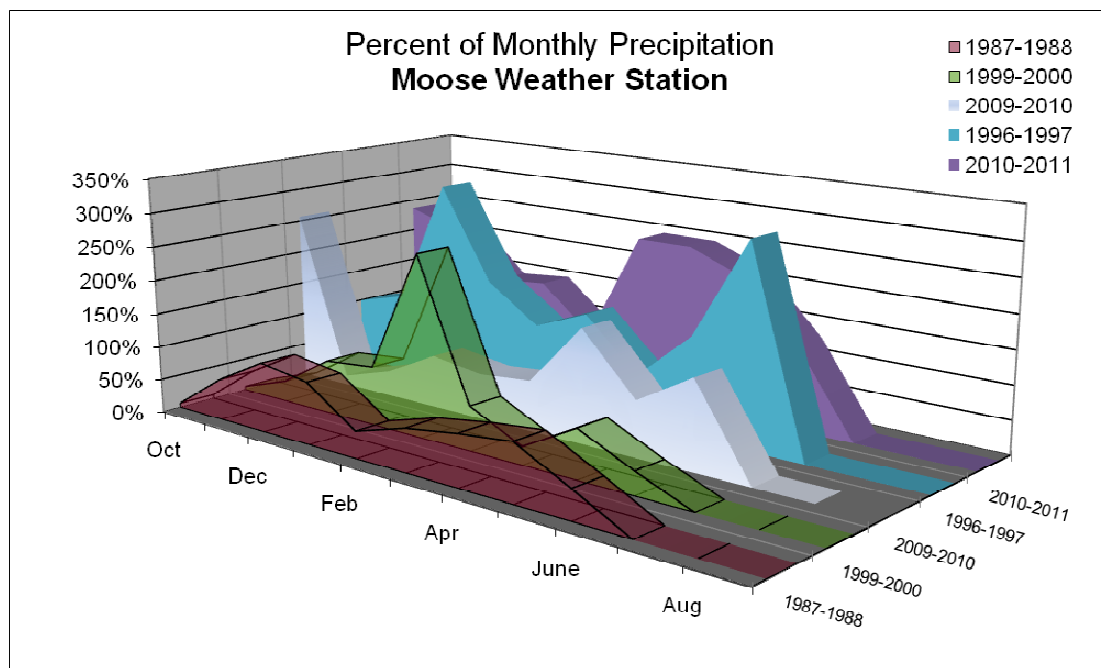
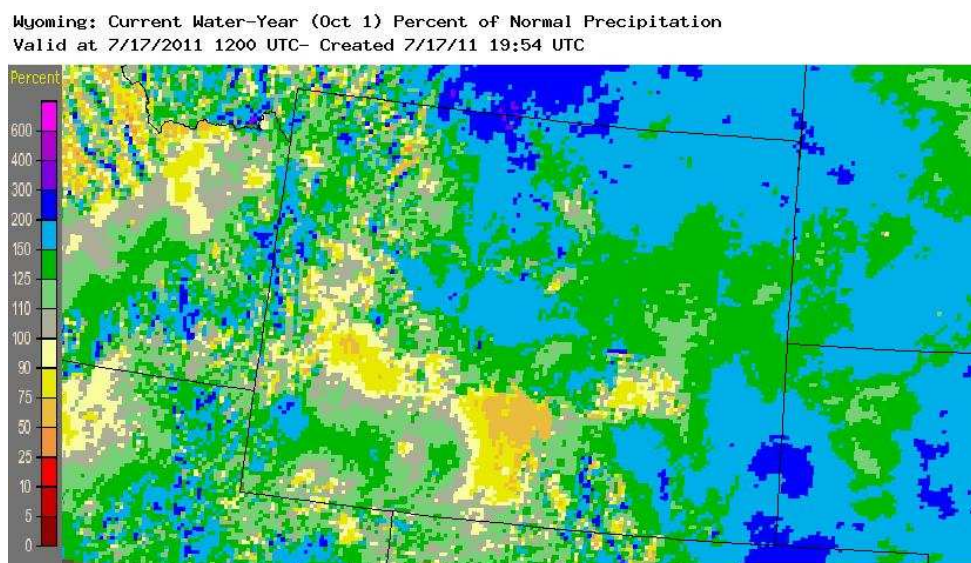


Figure 1b. Wyoming: Current Water-Year, Percent of Normal Precipitation. Most areas in the Teton Interagency Fire zone range from 100-200% of moisture for the water year to date. <http://water.weather.gov/precip/>.



(2) Area Streamflow

Throughout the TIDC area, streamflow is at or above normal levels for late June and early July (*Figure 2*) and area reservoirs are at full capacity. Most streams reached peak streamflow in mid- to late-June, with an extended period of high flow due to above-average snowpack and extended melt-off. According to the June Surface Water Supply Index (SWSI) for Wyoming, most basins in Wyoming are in very wet to extremely wet conditions, with the exception of the Red Desert region (*Figure 3*).

Figure 2. <http://waterwatch.usgs.gov/new/?m=real&r=wy>

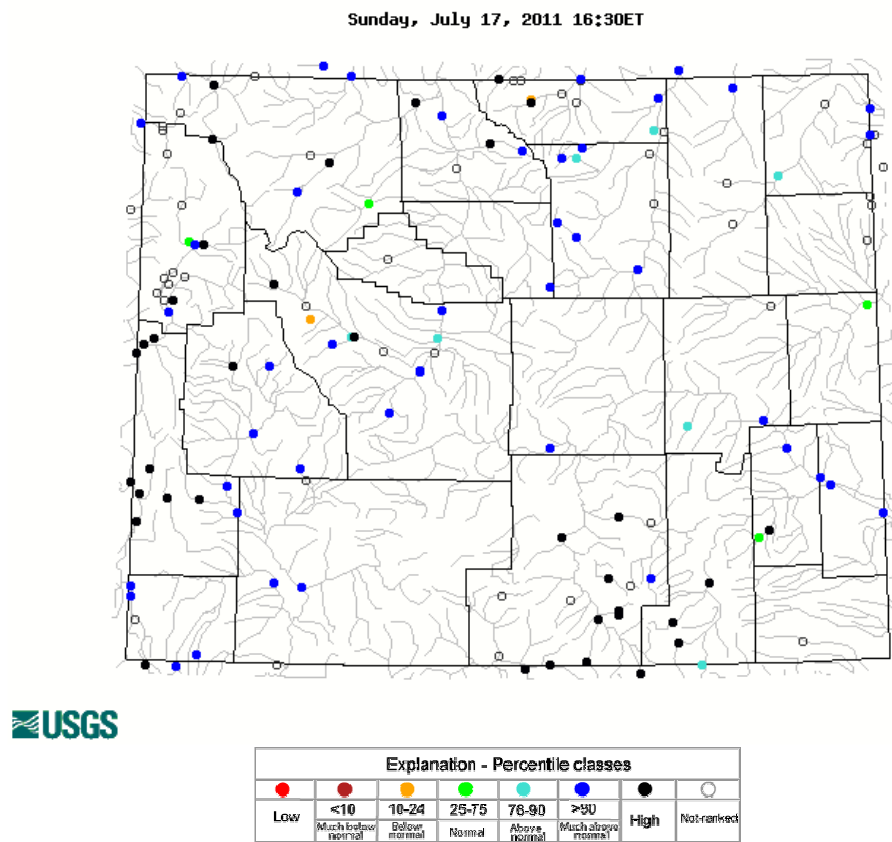
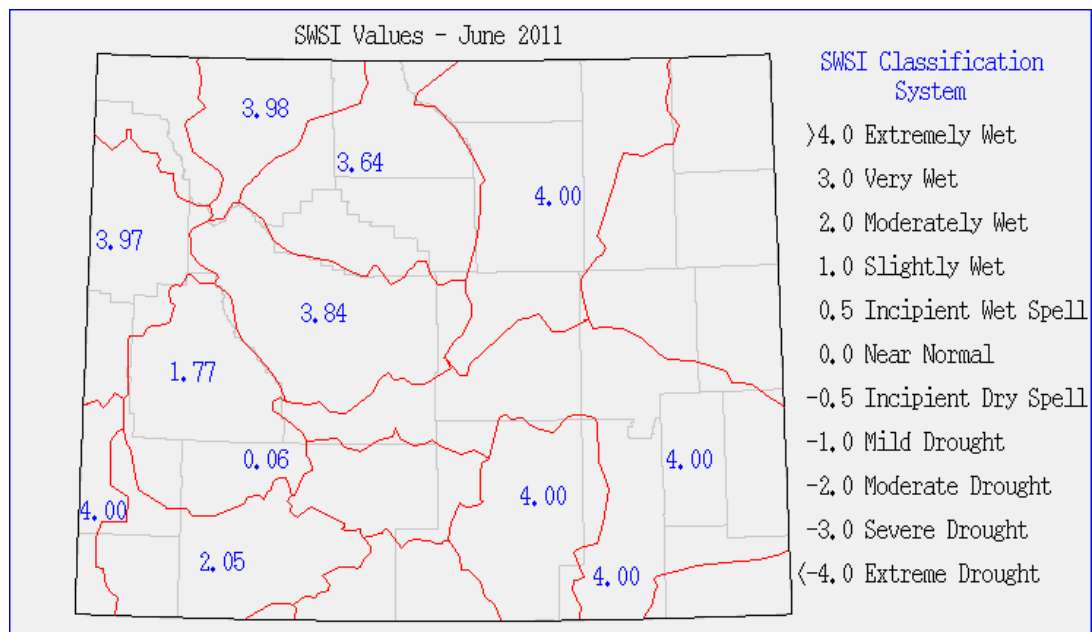


Figure 3: Surface Water Supply Index for Wyoming. <http://www.wrds.uwyo.edu/wrds/nrcs/swsimap/swsimap.html>.



Snowpack melted 1-2 weeks later than average, with year-to-date precipitation at regional SNOTEL sites ranging from 95-143% of normal.

Figure 2a-c. SNOTEL data (Water Year to Date, Snow Water Equivalent) for Grassy Lake (North Zone), Elkhart Park Guard Station (East Zone), and Snider Basin (West Zone).

<http://www.wcc.nrcs.usda.gov/snotel/Wyoming/wyoming.html>.

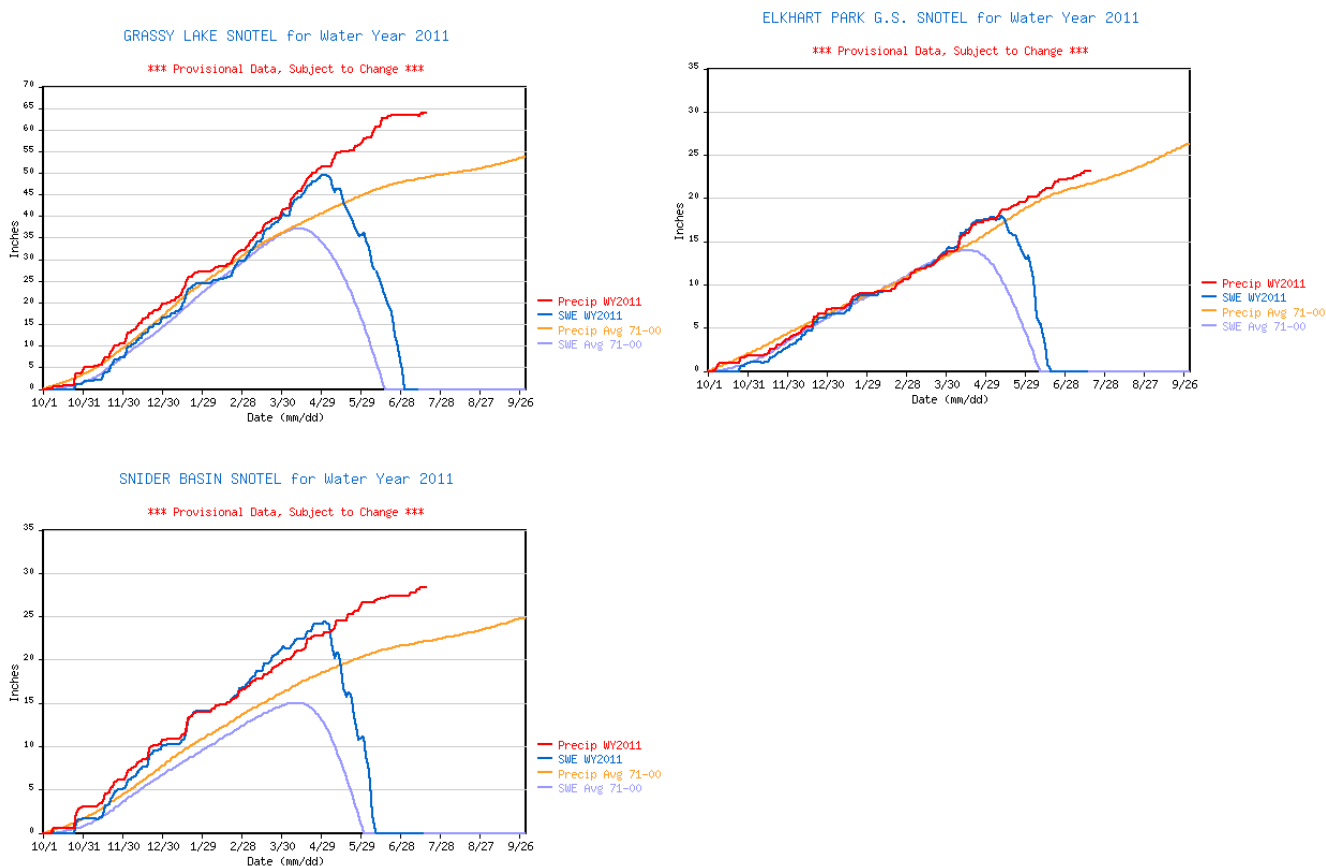


Table 2: Percent of Average Snow Water Content and Precipitation by Basin (as of 06/13/2011)
(<http://www.wcc.nrcs.usda.gov/reports>)

	Snow Water Content	Total Precipitation (Water YTD)
Snake River		130%
Upper Green River		126%
Yellowstone/Madison basin	180% * (See Note 1)	129%
Wind River		116%

Note 1: Snowpack at most Snotel sites in the region has now melted; the remaining sites with snow (in the Yellowstone/Madison Basin) may not provide a valid measure of conditions. Overall year-to-date precipitation for the basins range from 116-130%.

Figure 3: As of July 17, the Westwide Snow Water Content displays the continued impact of La Niña wet-winter conditions and a delayed snowmelt, with lingering above-normal snowpack in higher elevation sites in the Rockies and Pacific Northwest. <http://www.wcc.nrcs.usda.gov/snow/snotel-wereports.html>.

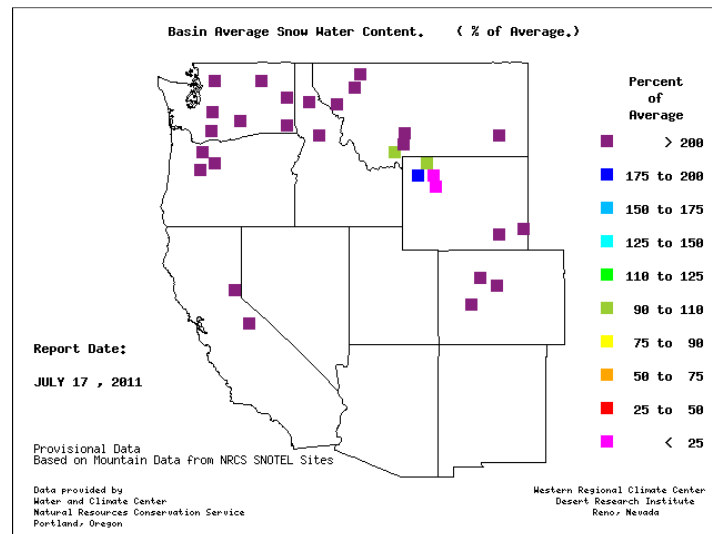
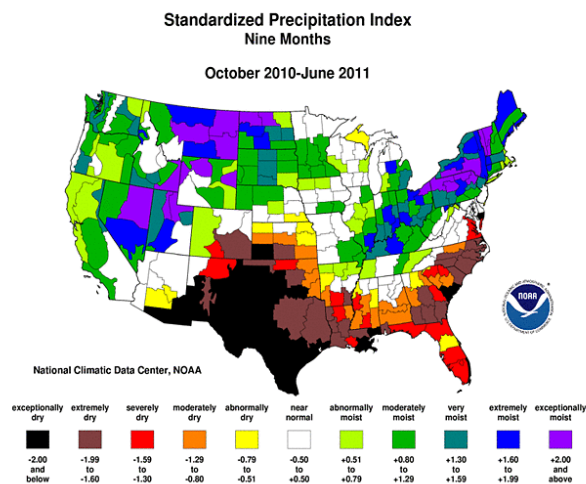


Figure 4. This trend is confirmed in the Standardized Precipitation Index (October through June), which documents the long-term transition this year from drought to moister conditions in much of the Rocky Mountain West and Northwest. http://www.ncdc.noaa.gov/img/climate/research/prelim/drought/spi09_pg.gif



(3) Drought Monitor

Lingering drought impacts from prior years have been eliminated due to current weather patterns. In the West, the only regions indicating drought are Arizona, New Mexico, and south-central portions of Colorado. See U.S. Drought Monitor, West for details (http://drought.unl.edu/dm/pdfs/west_dm.pdf).

(4) Fuel Moisture

A fuel moisture sampling program in Grand Teton National Park reflects north zone and mid-elevation fuel conditions. The fuel moisture sampling offers a season-to-season comparison of fuel moisture trends (Table 2). This season, fuels in the sagebrush flats (both live herbaceous and live woody) are above normal for July 15. In timber fuel types, live herbaceous fuels are above normal while live woody conifer are tracking normal and 1000-hour dead fuel samples are trending slightly below normal for July 15. Climate rankings may help explain the green live

fuels and drier 1000 fuels. While year-to-date and 6-month precipitation for Wyoming is far above normal, precipitation for June was significantly below normal (<http://www.ncdc.noaa.gov/temp-and-precip/maps.php>).

Table 2 and Graphs: Current Fuel Moistures for Grand Teton National Park (7 sampling stations).

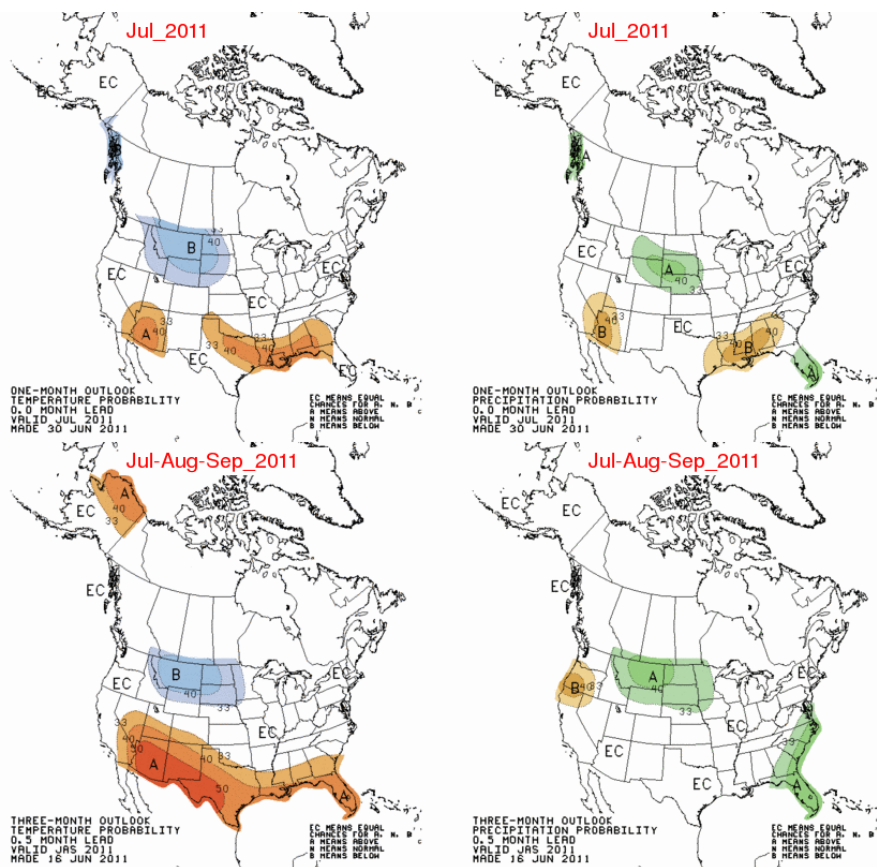
Fuel Moisture	Prior Year Samples (Average for July 15)		18-year Average for July 15	2011 Samples	
	2009	2010		Range	Average
Conifer Sites					
1000 hour fuel moisture	21%	19%	21%	14-21%	18%
Live Woody: Conifer	122%	120%	131%	111-151%	132%
Live Herbaceous: Conifer Understory	181%	177%	167%	150-225%	193%
Sagebrush Sites					
Live Woody: Sagebrush	157%	152%	131%	150-180%	165%
Live Herbaceous: Sage Flats	111%	101%	98%	117-134%	126%

(5) Long-term Temperature and Precipitation Outlook

Climate Prediction Center outlooks reflect a transition from La Niña conditions to neutral conditions this summer. A general drying trend may affect the region throughout the summer, with temperatures trending from average to below average when compared to our normal climatology regime and precipitation average to above average.

Figure 5: Temperature and Precipitation Outlook – June and June through August.

http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/page2.gif



GEOGRAPHIC AREA OUTLOOKS

The Teton Area fire zone is within the Eastern Great Basin geographic area. Fire seasons in our zone also track with similar conditions in adjacent areas within the Rocky Mountain and Northern Rockies areas. This has been particularly evident during busy fire seasons, when fire behavior trends shared across the Greater Yellowstone Area (GYA), which encompasses an area where these three geographic areas converge. Each of the pre-season outlooks below indicate normal potential for significant fire activity as the fuels cure and soil moistures dry. Higher elevation sites may remain green longer into the season, with lower fire potential. Lower-elevation ignitions may exhibit typical fire activity by early or mid-August into October. While dry conditions may develop, the return to drought conditions this summer is unlikely.

Excerpts of Regional outlooks from “National Wildland Significant Fire Potential Outlook” (July 1, 2011, NIFC Predictive Services): http://www.nifc.gov/nicc/predictive/outlooks/monthly_seasonal_outlook.pdf.

Eastern Great Basin: Significant fire potential for July is expected to be normal for most of Eastern Great Basin except for the mountains of Idaho, western Wyoming and northern Utah where fire potential will be below normal and for far southwest Utah, the Arizona Strip and far southeast Utah where fire potential will be above normal. Cool, wet conditions through June and slow melt of above normal snow pack have kept higher elevations very moist and green. These should remain green through July, keeping fire potential low. At lower elevations, the same wet conditions generated abundant grasses, favoring natives which should remain green through at least mid-month. In the far southern corners of the Area, a dry and hot June allowed grasses to cure, elevating the significant fire potential for significant fire for the month. Temperatures and precipitation are forecast to be normal for July. Surges of monsoon moisture in early July may cause a spike in fire activity for southern Utah but this should drop quickly as precipitation and humidity increase. Significant fire potential for August through October is expected to be normal across Eastern Great Basin except in the higher elevations of Idaho, western Wyoming and northern Utah. Normal conditions in lower elevations will resume as the Area enters the core of its fire season. High elevations continue green and are not likely to dry enough to support even normal fire activity before the season begins to wind down in September. Temperature and precipitation are forecast to be normal.

Northern Rockies: Significant fire potential is expected to be below normal for the Northern Rockies in July. Persistent snow in the higher elevations, above normal fuel moisture and delayed curing of fine fuels will delay the onset of significant fire activity through the month. Temperatures and precipitation are expected to be at normal levels except above normal precipitation over North Dakota. Below normal significant fire potential is expected for the western third of Montana and normal for the rest of the Northern Rockies Area for August through October. While warm and dry conditions are expected to return in August, higher than normal soil moisture should limit unusually hot weather and ENSO neutral conditions do not favor drought development. High elevations and north aspects of western Montana will remain green long enough to not be a factor for this fire season. Valley bottoms to mid slopes are expected to gradually dry enough to support large fire by the second week of August. However, growth will be slowed as these fires burn into higher and still green elevations and north aspects. For eastern Montana and North Dakota, fine fuels will begin to dry in July and be cured by August. Below normal activity for July should transition to normal by mid-August.

Rocky Mountain: Above normal significant fire potential is expected through early July for the Four Corners region, the southwest mountains, the San Luis Valley and elevations above 8000 feet on the southern Front Range. Long term drought conditions and recent rainfall deficits have left fuels very dry. Expected hot and dry conditions for the beginning of July will increase the potential for large fire growth. Conditions remain below normal for most of South Dakota, northern Wyoming, northern Nebraska and the north central mountains of Colorado. A very wet spring has delayed curing of fuels while in higher elevations an extensive snow cover remains. The remainder of the Rocky Mountain area will have normal significant fire potential. As more normal weather patterns develop in late summer and early fall, most of the Area will transition to a normal significant fire potential for August through October. Only the highest elevations of northwestern and northern Wyoming and north central Colorado will remain below normal as wet conditions from late season snow melt persist.

CURRENT FIRE ACTIVITY

Fire Activity: Teton Interagency Dispatch Center

With significant snowmelt impacting the early fire season, the fire incidence was below normal, with the early fire tracking below with similarly moderate years of 2004 and 2006.

Table 4: Year-to-Date Fire Activity (Unplanned Ignitions)

YTD to July 1	Bridger-Teton National Forest		Grand Teton National Park		Other TIDC Response Areas
	Fires	Total Acres	Fires	Total Acres	
2004	6	2	2	0.35	
2005	2	.35	1	0.1	
2006	8	4.4	1	0.1	
2007	6	7600+	2	4.1	
2008	3	0.3	0	0	
2009	6	0.6	2	.35	
2010	7	1	2	.2	
AVERAGE	6.1	34.2	1.2	1.4	
CURRENT (to July 16, 2011)	3	5.2	1	0.1	Sublette County: 1 fire, 162 acres

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For further information, contact:

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